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ABSTRACT

Scholars of sex differentials in attainment in the labor market have long looked to the division of labor in the family--especially childbearing and rearing--as one source of these differentials. This study assesses the effects of the first birth on the career orientation and job characteristics of young adult males and females, using data from the National Longitudinal Study of the High School Class of 1972. It tests the hypothesis that those who become parents differ in their views of work even prior to the pregnancy that produces the first birth and that parenthood produces changes in career orientation over and above those existing earlier. The study also examines the average job characteristics of employed mothers and fathers to assess changes in these around the first birth. The results of the study show that mothers differ from nonmothers in several key respects prior to the pregnancy and that the first birth results in further changes. For men, no evidence of initial differences between those who become fathers and those who do not is found, and effects of parenthood are shown only for general career expectations. The results give some indication that new fathers become less focused on their careers in the years around the birth of their first child. (KC)

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The Effects of Parenthood on the Career Orientation and Job Characteristics of Young Adults*

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Abstract

Scholars of sex differentials in attainment in the labor market have long looked to the division of labor in the family—especially childbearing and rearing—as one source of these differentials. This paper assesses the effects of the first birth on the career orientation and job characteristics of young adult males and females, using data from the National Longitudinal Study of the High School Class of 1972 (NLS). It tests the hypothesis that those who become parents differ in their views of work even prior to the pregnancy that produces the first birth, and that parenthood produces changes in career orientation over and above those existing before. We also examine the average job characteristics of employed mothers and fathers to assess changes in these around the first birth. Our results show that mothers differ from nonmothers in several key respects prior to the pregnancy, and that the first birth results in further changes. For men, we see no evidence of initial differences between those who become fathers and those who do not, and we find effects of parenthood only for general career expectations. Our results give some indication that new fathers become less focused on their careers in the years around the birth of their first child.

Scholars of sex differentials in attainment in the labor market have long looked to the effect of the division of labor in the family as one source of unequal male–female success on the job. To the extent that women have

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sole or primary responsibility for managing the home and raising the children whereas men's primary responsibility is to their job, mothers may—willingly or unwillingly—curtail their employment activities and thereby retard their career progress. Much of the research on the impact of family on career progress has relied on cross-sectional comparisons between the occupational attainments of parents and those of nonparents, with controls for their characteristics (Treiman and Terrell 1975), or on estimates of changes in attainments over a period, predicted by changes in family and other characteristics (Rosenfeld 1978, 1980). The research presented here takes a different perspective, focusing on how entry into parenthood changes the *average* job characteristics of employed men and women, and the extent to which these changes represent permanent shifts in expected career trajectories or short-run accommodations to the demands of child-rearing.

This paper assesses the effects of parenthood on the aggregate characteristics of the jobs held by young adult males and females and on their expectations for their later careers. Using data from the National Longitudinal Study of the High School Class of 1972 (NLS), we examine parenthood effects on occupational status, hourly and weekly wages of employed parents, career expectations, and orientation toward work.

Although most men are in the labor force from the time they complete their schooling until they retire, a substantial proportion of "prime-age" women work exclusively in the home at some point in their lives. Women are less likely to work outside the home when they have young children than either before or later (Bureau of Labor Statistics 1984). These aggregate figures suggest that many women leave the labor force—at least temporarily—when their first child is born. Longitudinal analyses of women's employment in the period before and after the first birth show this to be the case; labor force participation of married women drops from about 75 percent one year prior to the birth to about 20 percent in the month when the birth occurs (Shapiro and Mott 1979; Waite, Haggstrom, and Kanouse 1985). Our own analyses (Waite, Haggstrom, and Kanouse 1985) show that some recent mothers return to their jobs during the two years following the birth of their first child, but that participation rates remain 40 percent below their previous levels. Assuming that, if the births had not occurred, these mothers would have increased their participation levels like other wives with similar characteristics who remained childless, we estimate that the real decrement in the proportion employed is about ten percentage points more than what is implied by this before-after comparison. Figure 1 shows the time path of employment of recent mothers during the months surrounding the first birth, together with an estimate of their expected employment in the absence of children.

Our analysis also shows that those women who remain employed during the two years following their first birth reduce their average hours

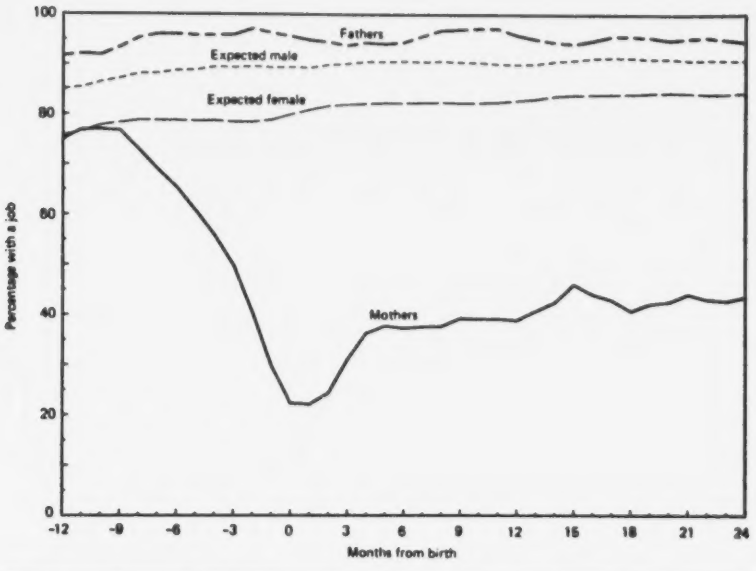

Figure 1. PROPORTION EMPLOYED

at work only slightly (from 38 to 35 hours per week), suggesting that the population of recent mothers splits into a sizable minority who remain employed full time and a majority who withdraw completely from the labor force, at least temporarily.

Do these dramatic shifts in women's activities mark short-run accommodations to the demands of young children, or do they represent relatively permanent changes in the roles filled by these women? To answer this question, we begin by examining how the NLS parents differed from their classmates in their career expectations *prior* to the first pregnancy. Second, we estimate the extent to which the arrival of the first child *changes* women's and men's long-run career expectations, shifting women toward full-time work in the home as a career, and increasing men's expectations for career success. Third, we examine changes in the average job characteristics of employed women around the first birth to see how the withdrawal of the majority of those working before the birth and the selective reentry of some affect the picture that we get of working women.

Occupational Choices

If women make rational decisions about the extent to which they invest in their own skills, then those who expect to concentrate their activities pri-

marily or exclusively on home and family will make relatively few investments in their own job skills. And those who expect nonfamilial roles will more often acquire knowledge and training useful in the job market; in fact, some studies show this to be the case (Sandell and Shapiro 1978). Indeed, it is often argued that sex differences in wage rates largely reflect the choices many women make to work at jobs that pay less but allow them to combine work and motherhood (Doescher 1980; Polachek 1979). For some women, trade-offs between career objectives and family considerations may occur when they first begin to think about their adult futures, whereas for others it may be when they are faced with a job, marriage proposal, or pregnancy. Still others may modify job or career plans only after a child arrives and they realize how demanding infants and young children can be. But, to the extent that young women alter their plans for work to accommodate their expected family responsibilities (Waite and Stolzenberg 1976), parenthood affects their job and career attainments.

Earnings

Parenthood may tend to lower working women's average earnings for several reasons. First, some women with children undoubtedly exchange pay for convenience in choosing jobs, especially if they are married (Darian 1975). They may decrease hours at work, thereby decreasing earnings. They may forgo training because they do not expect to work long enough to receive an adequate return on their investment. And selection of certain women into the labor force may affect average earnings by parenthood status. In the past, highly educated women left employment after a birth at higher rates than others, presumably because they believed that they could provide the best available care for their young children (Fleischer 1977; Leibowitz 1974). Thus, withdrawal from the labor force of some of the women with the highest (potential) earnings may lower averge earnings. But the recent increase in the labor force participation of mothers of young children—especially noticeable among those with the highest education—suggests that this pattern has changed, as do analyses by Eggebeen (1985).

Job and Career Attainments

The reserach literature on women's occupational attainment shows divergent effects of presence and ages of children on the status of their mother's occupation, all measured at the same time. Studies examining the effects of number of children on current occupational status show no effect (Fligstein and Wolf 1978; McClendon 1976; Rosenfeld 1978, 1980), but several report that family size negatively affects gain in status (Marini 1980; Rosenfeld 1978, 1980; Sewell, Hauser, and Wolf 1980). Sørensen (1983) concludes that a woman's family responsibilities—as indexed im-

perfectly by number of children—affect her occupational status when she returns to the labor force after an absence but do not affect improvements in status from that point on. Men's occupational status appears to respond to parenthood and family size differently from women's; family size appears to have little influence on the status of a man's job, but being married has a significant, positive effect (Rosenfeld 1978).

Although it is unclear whether family size influences women's occupational attainment, most research shows that family size is negatively associated with women's earnings (McClendon 1976; Treiman and Terrell 1975) or that it has no effect at all (Rosenfeld 1978).

Several researchers suggest that marital status and parenthood might act as a screening device for employers considering job applicants; married fathers may represent more stable and deserving employees than unmarried or childless men, whereas married mothers may be viewed as likely to leave the job or be undependable workers because of family commitments (Bartlett and Callahan 1984). "Family men" may also be seen by employers as having incentives to hard work and career advancement for the sake of their wives and children. And, in fact, employers may be right; marriage and impending or actual fatherhood may affect men's job behavior. After marriage, young men are less likely to be unemployed, and marriage and fatherhood tend to be associated with increased earnings, although most analyses compare earnings according to the number of children or dependents rather than examining the earnings of men who have any children versus those who have none (Blau and Duncan 1967; Daymont and Andrisani 1984; Hill 1979; Rosenfeld 1978; Treiman and Terrell 1975). Of course, differences in earnings at one point between married and unmarried men or between men with different numbers of children could arise for different reasons. Men with higher earnings are better able to assume additional family responsibilities. By the same token, additional family responsibilities increase the incentives to maximize earnings. In one of the few longitudinal studies of the effect of parenthood on earnings, Cramer (1979) finds that men with at least one child who have an additional child during the survey period show significantly increased earnings, primarily as a result of more hours at their regular job.

ANALYSIS PLAN

Our analysis examines several hypotheses about the relationship between becoming a parent and the job characteristics and career expectations of men and women. First, we determine whether those who become parents differ substantially in their expectations and achievements *before* the first birth from those who delay or forgo children. The hypothesis that parents are different long before they have children is implied by the arguments summarized earlier that women who prefer home-oriented to job

rewards—the most important of which may be children—invest less than other women in schooling and training, are more likely to plan to remain out of the labor force or take a traditionally female job, and are less committed to work.

The arguments above apply primarily to women; theoretical perspectives tend not to deal with the factors that affect the timing or likelihood of parenthood for men. As the traditional male role of breadwinner does not conflict with the traditional father role, we predict few initial differences in career characteristics between those men who become fathers in the short term and those who do not, except perhaps that fathers are more likely than childless men to be established in their careers and therefore ready for parenthood.

Second, we examine the hypothesis that becoming a parent *changes* the work-related expectations and behaviors of young adult men and women. This hypothesis is implied by suggestions that parenthood increases men's commitment to their jobs but decreases women's commitment; that parenthood is often interpreted by employers as a positive indication of male workers' stability, whereas for female workers it is interpreted negatively, especially for young workers with little employment history (Bartlett and Callahan 1984; Rosenfeld 1978), and that the demands of parenthood may cause women (and men) to reevaluate their previous choices about work and family, generally pushing women toward family and men toward work.

This reasoning implies that women will lower their sights for career attainments as a result of the first birth, either by shifting toward self-definition as a homemaker rather than a worker, or by planning for lower-status, less-demanding careers that fit with family responsibilities. Men, on the other hand, will show increases in work orientation, perhaps also raising their expectations for job rewards.

In other respects, men and women may respond to a first birth in similar ways—or at least in ways that are more complex than is suggested by a perspective based on traditional sex roles. For example, men who become fathers prior to age 25, as do those in the sample that we analyze here, may trade occupational status for immediate income because of the financial pressures that come from having an additional dependent. For the same reasons, they may choose jobs with higher short-run earnings over jobs with better prospects for long-term wage growth. And fathers, as well as mothers, may increase their interest and commitment to time spent with the family when they become parents, displaying less interest in their job or their career progress.

This paper does not deal directly with factors that affect the probability of labor force participation, or with withdrawal from employment following a birth; this issue has been the focus of numerous investigations which have given us an extensive body of knowledge about women's labor

supply (e.g., Felmlee 1984; Rexroat and Shehan 1984; Shapiro and Mott 1979). Our paper builds on this work to examine the consequences for the female labor force of the choices of individual women to work for pay or in the home, and of the types of jobs that they obtain.

Although childbearing and childrearing affect men's and women's activities from the time they begin to plan for parenthood, we focus on those effects that manifest themselves with the *transition* to parenthood, especially parenthood that is initiated during late teens and early twenties. We do this because entry into marriage and parenthood during these years is likely to both shape and reflect choices about other activities (Bacon 1974; Presser 1971). In addition, the effects of parenthood on other activities and on plans for other activities depend on its timing; marriage and childbearing before the completion of schooling seem to affect this and other activities more strongly than when these events occur later (Elder and Rockwell 1976; Hofferth and Moore 1979; Hogan 1981). Sørensen (1983) finds that women who marry relatively late and who have children late are less likely than other women to leave the labor force when their first child is born. Thus, those who begin their families early may shift their activities more than do those who become parents later. Finally, for both men and women, changes in activities associated with parenthood appear most pronounced for the first birth (Lindert 1978). In addition, the relative youthfulness of the NLS sample makes it unsuitable for studying higher-order births.

Data

The NLS provides a comprehensive data base for studying the educational, vocational, and personal development of high school graduates as they pass through the critical years of early adulthood. The NLS began in the spring of 1972 when 19,001 seniors from 1,061 high schools were asked to complete lengthy questionnaires and take a 69-minute test battery measuring both verbal and nonverbal abilities. The participating schools were also asked to provide further information about the seniors from their student record files. Later, four follow-up surveys were administered in the fall of 1973, 1974, 1976, and 1979 to over 23,000 members of the same graduating class, including most of the seniors who were in the base year sample.

For most respondents, the NLS provides information that allows us to pinpoint quite accurately the date of marriage and timing of first birth. Information on marital status was gathered on all four follow-up surveys, and married respondents were asked their dates of marriage. In the pre-1979 follow-up surveys, participants were also asked how many children they had as of the first week of October in the year the survey was taken.

The 1979 follow-up elicited the exact birthdates of all the respondents' children, both natural and adopted. Thus, the timing of first birth can be determined exactly for respondents to the 1979 survey, and estimated for most other respondents.

The analysis reported here uses NLS respondents for whom marital and parenthood status is known in 1976 and 1979; it eliminates completely those for whom marital and parenthood status is unknown in both years, and eliminates from analyses after 1976 those for whom these statuses are missing for later years (approximately 15 percent of the females and 19 percent of the males). Because many of the effects commonly associated with parenthood may, in fact, appear at marriage (Haggstrom et al. 1981), we focus our analysis on the effects of *married* parenthood by comparing married parents and nonparents. This allows us to avoid confusing the effects of marriage with the effects of parenthood. Because no suitable comparison group exists for those who have their first child while not married, we excluded unwed parents from our comparisons.

The limitation of our analysis to effects of married parenthood effectively means that we consider a smaller proportion of the black than of the white population. However, the NLS includes only high-school graduates; for this group the difference in rates of out-of-wedlock childbearing by race are substantially smaller than for the population as a whole (Ventura 1980).

After the above exclusions, there remained a sample of 2,807 women and 2,477 men in the NLS who were ever-married nonparents in 1979, plus 3,350 women and 2,190 men who were ever-married parents by that year. The most common reason for case loss was unknown date of first birth, for the parents, and unknown marital and parenthood status for all others.

To assess the effect of the loss of respondents from the sample by the 1979 interview, we compared those who left the sample by that year with those who remained. Sample loss was selective by background characteristics, but this selectivity appears modest.

Methods

In this study, we use an individual effects methodology similar to that used by Haggstrom et al. (1981). Its basic premise is that the effects of parenthood on the activities of a particular individual can be estimated by comparing changes over time in the individual's activity measures with estimates of the expected changes for that individual in the absence of parenthood. In this study, the expected changes are estimated using regression equations fitted to observations on the married NLS participants

who remained childless through October 1979 (or October 1976 if they did not respond to the 1979 survey).

We use this methodology to calculate the estimated average effects of parenthood, which vary over time, for each month from the twelfth month before the birth date of the first child ($t = -12$) through two years after the birth date ($t = 24$). We set $t = 0$ for the birth month of the NLS respondent's firstborn child.

Since the NLS participants were surveyed only three times between the base year survey in spring 1972 and the Fourth Follow-up Survey in late 1979, observations on the dependent variables Y_t are available for only a few time points. However, the NLS collected information on key activities, such as labor force participation and hours worked, retrospectively for non-survey years. Observations on the dependent variables were then dated relative to the first birth. For example, an NLS respondent who first became a parent in December 1973 provides observations at $t_1 = -14$ (October 1972), $t_2 = -2$ (October 1973), . . . , $t_8 = 70$ (October 1979). Thus each respondent provides as many as eight observations 12 months apart over the period, 1972 to 1979.

In calculating the values of the means $\bar{Y}_t$ for a particular value of t, say $t = 10$, we first averaged over all those outcomes for parents who provided observations on the tenth month following entrance into parenthood. Having calculated these means m_t for all values of t, we then "smoothed" the time series of means using a 7-point, third-degree polynomial smoothing procedure. For methodological details, including specifications of the fitted equations used in the analyses, see Haggstrom et al. (1985).[1]

To estimate the predicted means for parents if they remained childless, we used fitted values from logistic regression equations (for dichotomous dependent variables) or linear equations (for all other variables) derived from observations on 2,807 women and 2,477 men in the NLS who were ever-married nonparents in 1979 (or, if they did not complete a survey that year, were ever-married nonparents in 1976). Inasmuch as the data set contained as many as 8 observations (one for each year) on each respondent on each variable, we had a large number of observations for fitting the equations.[2]

These equations incorporated a variety of background characteristics (high school measures, race/ethnicity, and family background) as well as year of observation and marital status, duration of marriage, and educational attainment. The last three characteristics reflect the respondent's status at the time of observation. Fitted equations for all outcome variables provide a means for predicting the time paths that typical parents might have followed if they had remained childless, taking into account the timing of their marriage, their educational progress, their backgrounds, and the dates at which their outcomes were measured.[3]

While this methodology could be applied to estimate the individual effects of parenthood for each parent in the NLS, we have restricted our attention to the *average* effects for certain categories of parents. The estimated average effects across individuals, which vary over time, have been calculated for each month from the twelfth month before the birthdate of the first child through two years after the birthdate. The average effects are implicitly depicted using graphs showing smoothed time series of the actual means of the outcome measures for the parents, along with analogous time series showing the predicted means in the absence of parenthood, which are derived using the regression equations fitted to observations on married nonparents.[4]

MEASURES OF JOB AND CAREER EXPECTATIONS AND CHARACTERISTICS

Our analysis of the effects of parenthood on job characteristics uses a number of measures of the work expectations of young adult men and women: an index of the occupational category in which the respondent expects to work; an indicator of whether the person expects to enter a professional occupation; an indicator of general work orientation; and, an indicator of whether a female respondent expects to be a full-time homemaker. In addition, for females only we examine two measures of the extent of homemaking as an occupation. We also include several measures of the type of jobs held during the period prior to and after the first birth. The Duncan Socioeconomic Index, also called the Duncan SEI, measures the status of the occupation held. This index, described in detail in Blau and Duncan (1967), ranges in theory from a low score of 1 to a high score of 99, although the actual range is somewhat smaller. The Duncan SEI includes only the occupations included in the census detailed occupational classification; it excludes housewife, student and other alternative roles not considered occupations within the census classification scheme. We also examined two measures of wage attainment: hourly wage rate on the main job and total weekly earnings at all jobs. Along with the Duncan SEI, they are available for all survey years.

Much of our analysis focuses on young adults' assessments of what they will be doing five to ten years in the future. We have no indication of how realistic they are in making these predictions, or what proportion will actually end up doing what they expect to do. From our perspective, however, this lack of information about the predictive validity of these measures is unimportant, for two reasons. First, we are interested less in what young adults will actually do than in what they expect to be doing. Their view of the future tells us something about their goals, weighted by their guesses about their ability to attain them. Young men and women may base their childbearing decisions in part on this view that they hold of the future. Second, job and career expectations take on a life of their own,

affecting individuals' plans and behavior in other spheres of their lives, and guiding their actions with respect to job choices.

Results

JOB AND CAREER EXPECTATIONS

To determine whether new parents differ *before the first birth* from those who delay or forgo parenthood, we begin by examining various measures of young adults' expectations for their ultimate job. Our first measure uses responses to a key question asked on each follow-up survey: "What kind of work will you be doing when you are 30 years old?"[5] Possible responses consist of a set of 16 occupational categories, each accompanied by a short list of specific occupations contained in the category. Three indicators of expectations that we derived from this question are: an index of the "goodness" of the career (occupational category) in which women and men expect to work; the percentage of men and women expecting to enter a professional occupation; and the percentage expecting to be full-time homemakers, for women only. The career expectations index was derived using canonical correlation between the indicator variables for 1973 occupational expectations and a set of background factors (ability, student performance, and socioeconomic measures) that are known to be related to career choices. The index ranges from a low score of 10 for laborer to a high of 80 for upper-level professional (e.g., dentist, lawyer, college teacher), and thus reflects a "goodness" or status ranking of occupations. This index contains a score for "homemaker" and thus includes all respondents who plan to work and name an occupation or who plan to work full time in the home.[6]

Figure 2 presents the time series of actual and expected means in the absence of parenthood for the index of career expectations. This figure shows that women who have their first child in the next year expect occupations of precisely the same score on the career expectations index as we estimate that they would expect if they did not go on to become parents during this period. The same is true of fathers. During the pregnancy, mothers show a small decline in the ranking of their expected occupations, but this decline is trivial. Fathers' career expectations also decline during the pregnancy, showing more marked deviations from their expected levels than do mothers'. This change is also rather small, and the difference between fathers' actual expectations and our estimates of their expected scores results primarily from a fall in the former. By the time the child is about fifteen months old, the expected and actual scores converge. The initial correspondence of career expectation scores for both mothers and fathers with our estimates of what these scores would be in the ab-

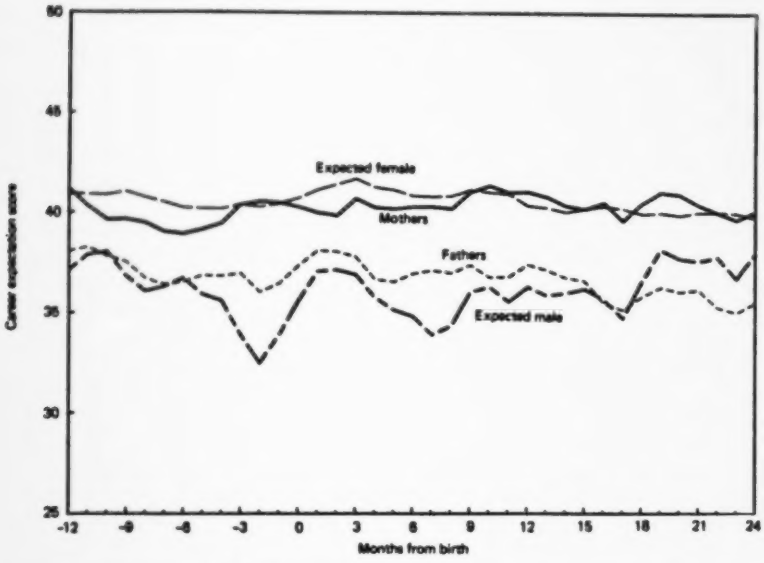

Figure 2. CAREER EXPECTATION SCORES

sence of parenthood, combined with decreases for mothers and increases for fathers compared with these estimates, support the hypothesis that the first child's actual or anticipated arrival pushes both men and women toward traditional roles. But these effects are quite small.

One reason that women who become parents in the near term differ so little from those who do not—both before and after the birth—lies in the index score assigned to expecting to be a homemaker at age 30. This score is essentially equivalent to expecting to be a clerical worker or sales person; we will see in later analyses that the proportion of mothers expecting that they will later be homemakers rises as high as 50 percent during the pregnancy, giving this "occupation" a great deal of weight in calculating average scores for expected occupations.

Figure 3 shows the proportion expecting to enter a professional occupation, among those who become parents, together with the estimated expected proportions in the absence of parenthood.[7] In this case, there is a sizable gap between the ordinates for the prepregnancy period ($t = -12$, -11, and -10), indicating that on average the soon-to-be mothers had lower expectations for professional careers before they became pregnant than other married women in the same class, after allow-

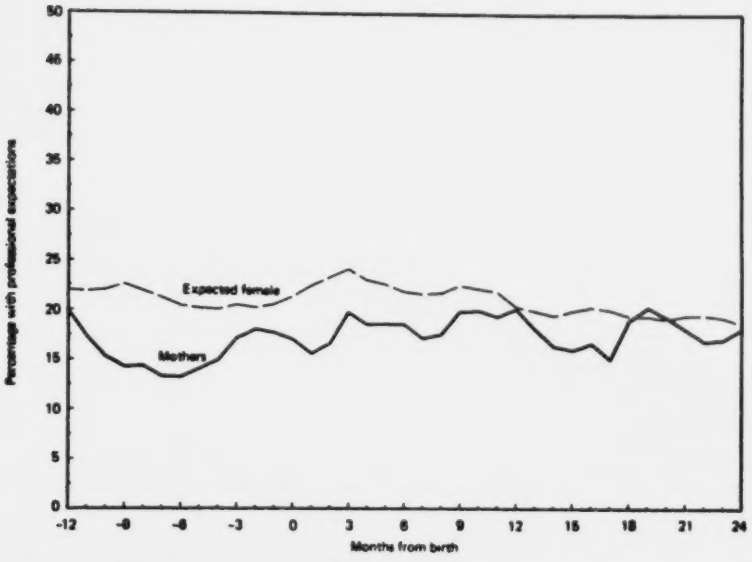

Figure 3. PROPORTION EXPECTING TO ENTER A PROFESSIONAL OCCUPATION

ing for numerous factors that might account for the differences. While there was a slight widening of the gap during the first three months of pregnancy, the gap narrows noticeably after that time. We infer from this that long-term plans for professional careers may fluctuate considerably during the year before and the two years after the birth, but on average new mothers do not forsake their professional goals during this period. The results of our logistic regression analysis for ever married nonparents suggest, however, that marriage may lead some women to give up their professional career goals (see Appendix Table A.2.).

Many women, of course, expect to work mainly or exclusively in the home. Presumably, women who marry and/or begin their families relatively early have a stronger preference for traditional roles than do those who delay their entry into family formation. If initial preferences influence both expectations for and actual timing of marriage and childbearing, then we will observe a higher percentage of mothers than nonmothers expecting to be housewives before their first birth. But if preferences change in response to the birth, we will observe increases in the percentages expecting a career as homemakers in the year or two after the first child is born. Figure 4 shows that even before the conception that results in the first

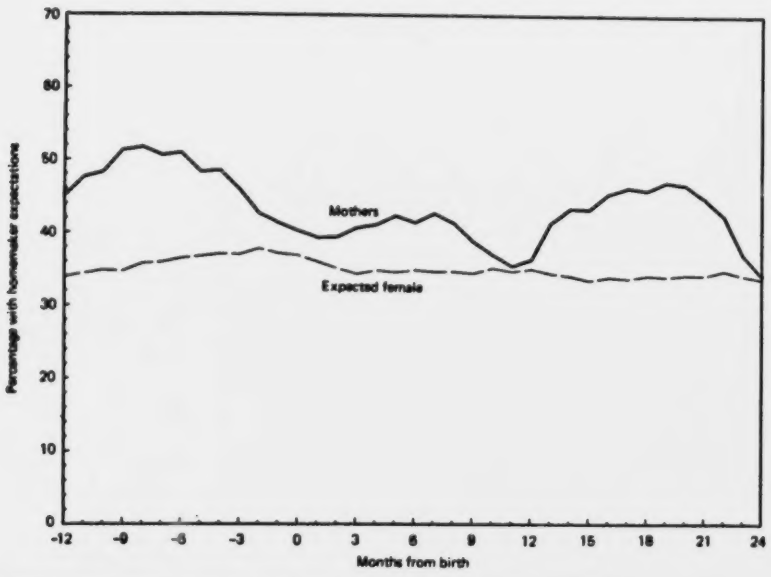

Figure 4. PROPORTION OF FEMALES WHO EXPECT TO BE A HOMEMAKER

birth, women who go on to have a child during the year differ dramatically from what we would expect in the absence of that birth; we estimate that 34 percent would expect to be a homemaker at age 30, given their characteristics, but 45 percent actually expect to work exclusively in the home. This is strong evidence that parents differ in important ways from nonparents, especially in having made life plans prior to the birth that take account of the future roles of wife and mother.

Homemaker expectations increase prior to the pregnancy, peaking at about the time of conception. They decline until the birth, rise slightly to decline again until the first child is about two, when they again increase. To the extent to which these pregnancies are planned, the rise in the proportion expecting to be full-time homemakers at age 30 might reflect the young women's plans for parenthood in the near term; the drop in homemaker expectations during the pregnancy may reflect the intrusion of the realities of childbearing or nervous second thoughts. But we have no evidence on the processes behind the brief popularity of work in the home or the subsequent changes of heart. Not surprisingly, homemaking expectations also appear to be strongly affected by marriage, judging from the sizable coefficient for marriage in our regression model for nonparents (Appendix Table A.1).

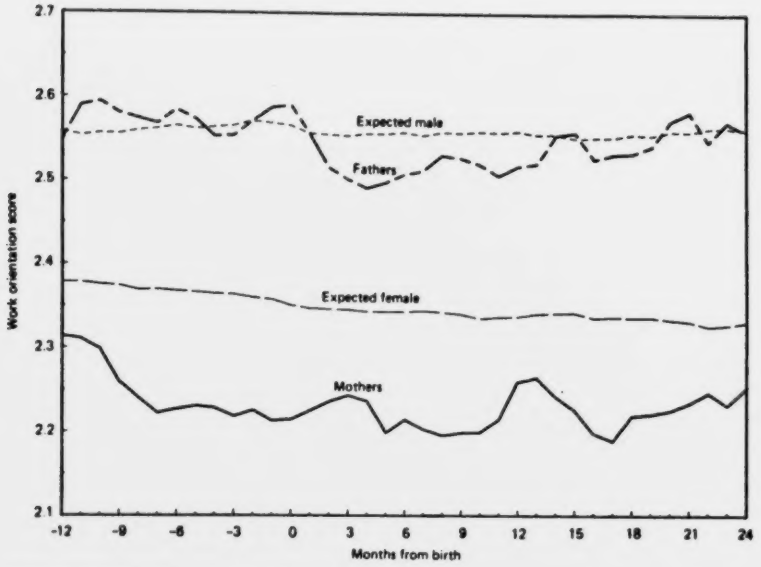

Figure 5. WORK ORIENTATION SCORES

Both marriage and parenthood may shift a woman's tastes away from employment and toward the family. Spitze and Waite (1981) find evidence that marriage alters women's tastes, but no evidence that the first birth does. As a measure of the importance of work and the rewards from work in the lives of the individuals, we examine a scale of orientation to work that combines the importance ratings the respondent assigns to being successful in her chosen line of work, having lots of money, and being able to find steady work. Comparison of mothers' actual work orientation with our estimates of their orientation in the absence of parenthood reveals noticeable effects (Figure 5). First, mothers show lower than expected values on this scale prior to the pregnancy, suggesting that initial work orientations influence the likelihood of a first birth. Second, work orientation falls for mothers beginning at the onset of pregnancy, and remains well below expectations for the next two years. This pattern suggests a decline of the importance of work as a result of parenthood. Our results for work expectations support both the hypothesis of substantial initial differences between parents and nonparents prior to pregnancy, and the hypothesis that becoming a parent has effects over and above these early differences.

Our results for fathers on this measure are less clear-cut than those

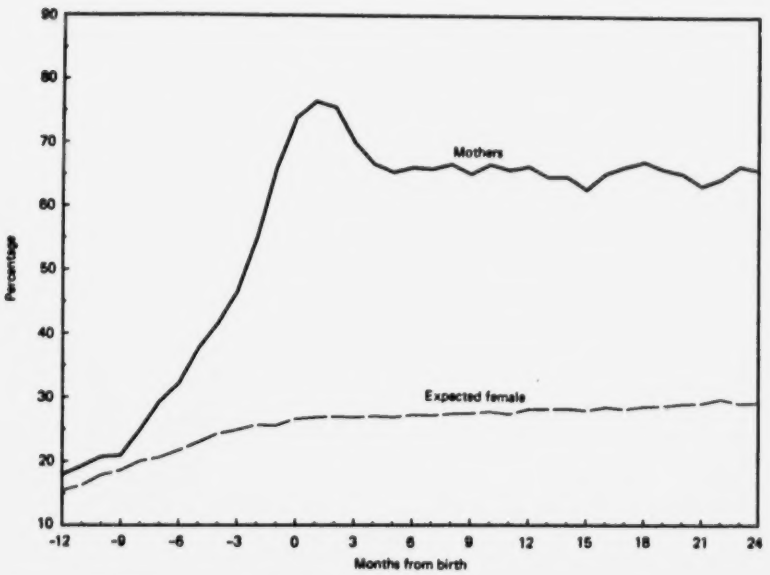

Figure 6. PROPORTION OF FEMALES WHOSE MAIN ACTIVITY IS HOMEMAKING

for mothers. We see no initial differences, and if anything, there is an overall decrease in work orientation after the birth. This decline in the importance of work during the first year of life of fathers' first child may result, as we speculated earlier, from involvement with the baby and increased absorption in family life.

Next, we examine how parenthood affects women's reports of their *current* homemaking activity (in contrast with the expectations examined above). Figure 6 presents results on this measure, which gives the percentages of women whose main activity is homemaking.[8]

Homemaking as the primary activity does not show strong effects of marriage, but depends mostly on parenthood, rising sharply in the year following the first birth. This pattern appears clearly in Figure 6, which shows a steep rise in full-time homemaking beginning at the onset of pregnancy, peaking at about the time of the birth, declining in the next three to six months, and remaining fairly constant thereafter. Up to three-quarters of married mothers are primarily homemakers in the year after their first child is born, with the percentages declining in subsequent years. Our estimates of the proportion of married mothers who would have reported homemaking as their main activity if they had not become

parents fall well below actual levels, and never exceed thirty percent. Consistent with this, the regression analysis for our measure of homemaking as a main activity indicates average marriage effects that are substantially smaller than those observed for our other homemaking identification measure, though they are still highly significant (see Appendix Table A.1).

Nearly all of the increase in homemaking as the main activity, which we observe throughout the pregnancy, results from women's withdrawal from employment—and to a lesser extent school—as the birth of their first child approaches. In a detailed analysis (reported elsewhere) of the relationship of the first birth to school enrollment and labor force participation, we observe a pattern almost exactly the opposite of that observed for homemaking as the main activity (see Haggstrom et al. 1985; Waite, Haggstrom, and Kanouse 1985). This close relationship results in part from our definition of homemaker status, since this requires that women report themselves as a homemaker and report no other full-time work or schooling role.

Next, we examine three measures of occupational attainment for initial differences between parents and nonparents and for parenthood effects, keeping in mind that one problem with comparison of labor market attainments of parents and the childless, or among parents with different numbers of children, is that one observes job characteristics only for the employed. The probability that women hold a job declines precipitously around the first birth (Shapiro and Mott 1979; Waite, Haggstrom, and Kanouse 1985) and tends to decrease with number of children ever born (Cogan 1980a). Thus, the samples used to determine the effects of presence and numbers of children on job characteristics of mothers versus nonmothers are censored. (This problem does not exist for men.) Commonly used methods to correct for this selectivity have little effect on analyses of women's occupational status (Fligstein and Wolf 1978). Perhaps this is because the methods are predicated on having good models of whether the woman is in or out of the labor force (Stolzenberg and Relles 1985), and the models typically used have weak predictive power, usually explaining less than 10 percent of the variance (e.g., Cogan 1980b).

Our analysis overcomes this problem of selectivity to some extent by focusing on work-related expectations, which are measured for all individuals whether they work or are out of the labor force. In the analyses just discussed, this strategy allowed us to assess differences in initial expectations between those who become parents in the near future and those who do not, and to look for effects of becoming a parent on changes in expectations.

Next, we present a brief analysis of average labor force attainments of employed women and men around the time of the first birth, and compare these to our estimates of average expected attainments in the absence

of parenthood. Because of the censoring problems discussed above and the methods we use, these speak only to changes in aggregate characteristics of the employed, not to changes in the attainments of individuals.

First, we assess the extent to which the occupational status of the jobs held by employed women changes over time.[9] Figure 7 addresses this issue by comparing time series of mean occupational status scores of the sample of employed women who became parents with the estimated expected status scores of the employed female population in the absence of parenthood. This figure shows that the average status of the jobs held by women who remain employed changes little during pregnancy, but that average status scores decline slowly following delivery from their level prior to the birth.[10] By two years after the birth, the average status score of employed mothers is about 6 points lower than it would be, we estimate, if no children had been born to these women. The gradually increasing differential between expected and actual average status reflects an actual decline in the average status of mothers' jobs (reflecting job changes and selective withdrawals of women from the labor force) combined with the small increase that we estimate would have occurred in the absence of parenthood. Indeed, the size of the actual decline just about matches the size of the expected increase.

To determine whether the decline in the mean occupational status of employed women reflects the constraints imposed by the NLS sample on the age of the women, we examined actual and estimated expected status for those women who had their first birth early (by 1976, when they were about age 22) and those who had their first birth late (by 1979, when they were about age 25). Both groups show the same pattern of declines in mean occupational status, suggesting that the finding is not limited to the large group of relatively early parents within the NLS sample.

Our regression results for nonparents, shown in Appendix Table A.2, suggest that the effects of marriage on women's occupational status run in the opposite direction from those of parenthood, with the average occupational status scores of married women about two points higher than those of single women. Because our regression equations include the year of the observation and the NLS represents a single cohort, our results for age at marriage are implicitly controlled for current age. However, married women and mothers are less likely to work than single women, so these results are affected to some extent by selection into the labor force.

Most theories of attainment in the job market predict positive effects of parenthood on men's success, because of the reactions of employers, the reactions of the men themselves, or the characteristics of those who become fathers. We argued that in certain circumstances, the financial pressures of a new dependent might render these effects nonexistent or even negative. For example, some new fathers might trade short-run

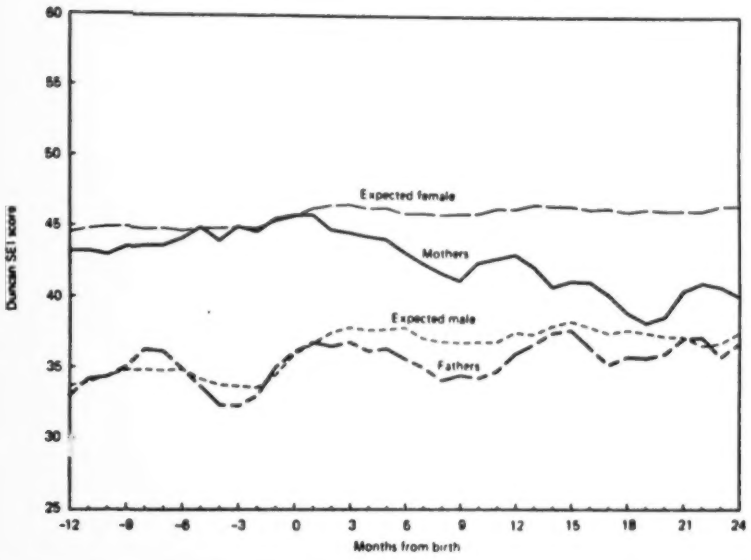

Figure 7. DUNCAN SEI SCORE FOR PRIMARY OCCUPATION

for long-run wage payoffs, or nonpecuniary benefits such as status for pecuniary ones.

Expected occupational status follows fathers' actual status fairly closely for the entire three-year period, both before and after the birth, although actual status tends to exceed expected status slightly through six months before the birth, and then dips below expected status at about three months before and six to twelve months after the birth (Figure 7). These changes are relatively small and not completely consistent. They do suggest a slight early advantage for fathers in occupational status, followed by a reversal of this advantage during late pregnancy and the first two years of the child's life.

Figure 8 shows the actual average hourly wage rates of employed mothers compared to our estimates of these rates for this sample in the absence of any births to these women. All amounts shown are in 1979 dollars, as were the amounts entered in the underlying regression analysis whose results are presented in Appendix Table A.2. This figure shows an upward trend in both actual and expected earnings from the year prior to the birth through two years after it. During pregnancy, average hourly wage rates are somewhat higher than we would otherwise expect,

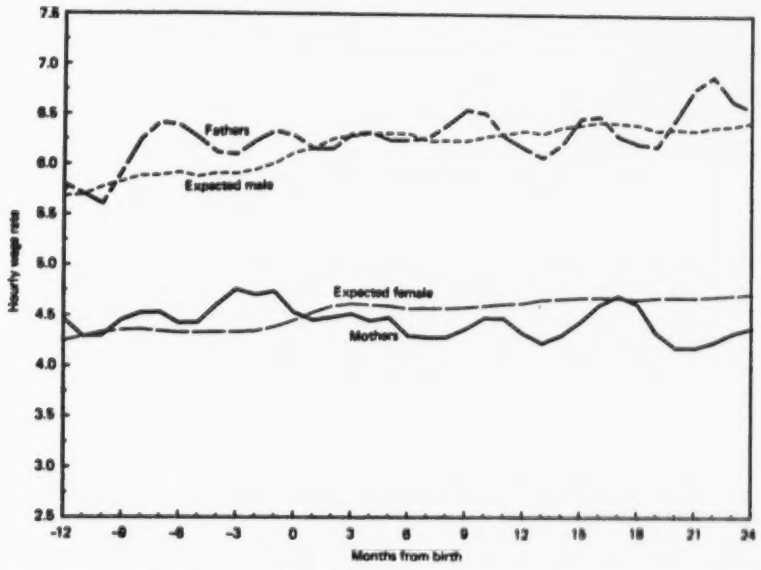

Figure 8. HOURLY WAGE RATES, 1979 DOLLARS

whereas following the birth they are slightly lower; these differences are modest.

Figure 9 presents mean total weekly earnings on all jobs, in current dollars, allowing us to assess the combined effects of the somewhat lower hourly wage rates just discussed and any changes in average weekly hours for mothers who remain employed. Figure 9 also gives average actual weekly earnings for mothers compared to average estimated expected earnings if they had not become parents. This figure shows a slightly stronger version of the pattern we saw in Figure 8 for hourly wage rates. Expected and actual earnings tend to remain the same until just after the first birth, when actual earnings decline and expected earnings continue to rise slightly. By the time the child becomes two years old, employed mothers earn about $35 per week less on average in 1979 dollars than we estimate they would have earned if they had not had that birth.

The sizable average negative effects that parenthood has on women's weekly earnings contrast sharply with the more modest *positive* effects that we estimate for marriage. The size and direction of these latter effects are best estimated by our regression equation for ever-married nonparents, given in Appendix Table A.2. These regression results indicate that other things equal, married women earn about $10 more per week than

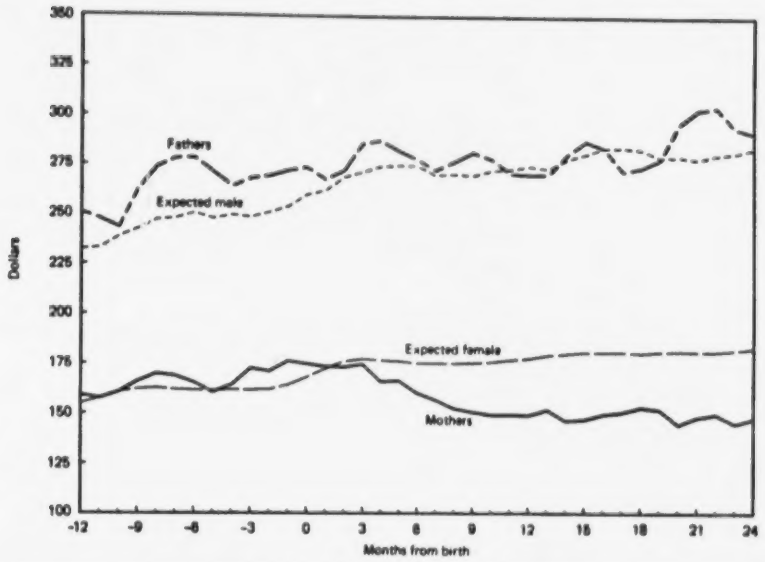

Figure 9. TOTAL EARNINGS PER WEEK

single women. The advantage is greater for recently married women than for those who have been married a long time. The positive effects of marriage on weekly earnings depend on having some earnings and thus on remaining employed. The marriage effect, then, may be due to selectivity, to marriage itself, or to some combination.

The fact that the negative effects of parenthood on women's earnings occur against the backdrop of positive marriage effects makes it extremely unlikely that the parenthood effects are attributable to marriage. Instead, the results indicate that these two aspects of family formation are associated with quite distinct earnings patterns.

Figures 8 and 9 indicate that improvements in men's hourly wage rates and weekly earnings due to fatherhood do not occur consistently, but appear primarily during pregnancy. This pattern makes sense if one remembers that fatherhood makes its greatest demands on the man's time and energy after the child is born, which may limit what he is willing to trade off to maximize earnings. During pregnancy, however, couples may try to increase earnings in anticipation of the later drain on their resources. Figure 9 shows smoothed time series of actual and predicted means for total weekly earnings, which show the same pattern as hourly wage rates. Fathers' total weekly pay, which tends to be higher than ex-

pected during the year before and soon after the birth, tends to fall by six to nine months after the birth to about the level expected in the absence of parenthood. This same pattern appears for hourly rates of pay, shown in Figure 8.

Fathers show a labor market advantage in several of our indicators; these precede but do not follow parenthood. This pattern may indicate a slight negative effect of parenthood on men's occupational status, wages, and earnings in the two years following the first birth; since other results not presented here show that virtually all fathers participate in the labor force both before and after the birth, the decline we observe in these measures of labor market attainment does not result from selective entry or withdrawal of fathers from employment.

The results of our regression analyses of these outcomes for ever married nonparents (Appendix Table A.2) indicate strong, positive mar riage effects on hourly wage rates for males; marriage increases hourly wages by about fifty cents, net of effects of the other variables in the equation. We also find evidence of strong marriage effects for men on total hours worked per week (in results not presented here) and—as a result of the combined effects of hourly rates and hours worked—on total earnings per week. Being married increases men's weekly earnings by about $24, net of other factors. The existence of substantial marriage effects for these variables underscores the importance of attempting (as we do) to disentangle the effects of parenthood from those of marriage. Most previous studies have failed to do this, and as a result have probably overestimated the magnitude of parenthood effects.

Our findings of negative parenthood effects on hourly and weekly wages for husbands after the first birth closely match those of Hofferth (1983), who reports that earnings of husbands are lower after a first birth than those of childless husbands, net of initial earnings levels. This analysis used data from the Panel Study of Income Dynamics, which includes first births to men of all ages. Hofferth speculates that men as well as women may pay a cost of childrearing through earnings that rise more slowly in the first few years after the first birth than do those of childless married men.

Summary and Discussion

This paper examines several hypotheses about the relationship between the birth of the first child and the job and career expectations of young adults. The first is that men and women who will become parents in the near future differ from those who delay parenthood in their expectations and orientations, and that these differences exist *before* the conception that

results in the first birth. Our results support this hypothesis for some measures. Women who will soon have their first child are less oriented toward work on average, and higher proportions expect to be homemakers at age 30 and define themselves currently as homemakers than we would expect if they did not become parents. But before they become pregnant, mothers do not expect lower ranking jobs on our measure of career "goodness," nor do those who work have lower status occupations, or lower hourly or weekly earnings, on average, than their characteristics lead us to expect. Nor are they more likely to be homemakers than are other married women with similar characteristics.

Women's employment declines dramatically around the time of the first birth and the proportion whose main activity is work in the home shows correspondingly dramatic increases. These changes could represent either short-term or long-term accommodations to parenthood. Evidence on which type of accommodation is involved can be adduced from measures of women's orientations toward work and their long-term expectations regarding career and homemaking. For the most part, this evidence points to short-term rather than long-term change. The proportion of women who expect to be homemakers when they are age 30 fluctuates considerably around the time of parenthood, but other measures—work orientation, career expectations, and aspirations for professional employment—remain stable. Evidently, most young mothers preserve their long-term goals and aspirations during the major shifts in their activities occasioned by pregnancy and childbirth.

This pattern is consistent with current statistics on women's employment, which show that at least two-thirds of those with school-aged or older children are in the labor force, as are over half of those with children under the age of six. Both these figures and our analyses suggest that the effects of parenthood on the mother's labor force activity are relatively short-lived for most women.

The sample of employed mothers shows a decline in mean occupational status, which may result from disproportionate withdrawal from the labor force of women with relatively high status occupations, or from shifts by individual women to jobs of somewhat lower status after the birth. Hourly wage rates of mothers show the same pattern as occupational status, but a weaker one, whereas total weekly earnings fall, mainly as a response to reduced hours at work (Waite, Haggstrom, and Kanouse 1985).

For men, we see little evidence that those whose wives are about to become pregnant differ from other men in most of our measures; the sole exception is total earnings per week. Before the pregnancy, those who are about to become fathers have higher earnings; this gap widens prior to the birth, then disappears. But fathers' work commitments, current occupa-

tional status, career expectations, and hourly wages are close to what we estimate they would be in the absence of prospective parenthood.

Our results do show that expectant and new fathers have slightly higher career expectations than we would expect in the absence of parenthood. But work orientation and occupational status fall below expected levels after the first birth, perhaps because fathers become more involved with their families, or because they trade occupational status for higher earnings or for jobs that let them spend more time with their new baby and its mother. Fathers' hourly wages and weekly earnings neither decline nor increase relative to expectations. Thus, we find relatively little support for the hypothesis that becoming a father induces men to work harder to advance their careers or to set their sights higher; in fact, it may have some of the same effects for young fathers that it has for women, drawing them toward the home and moderating, at least temporarily, the importance of career.

Notes

1. A copy of this report can be obtained by writing Linda Waite at the address indicated at the beginning of the article.
2. Although we restrict our comparison group to ever-married nonparents, we include all observations for those individuals, even those from the period before they married. In these equations, shown in Appendix Tables A.1 and A.2, Single is the omitted category in the series of dummy variables on current marital status.
3. Although we do not assume that those who marry but delay childbearing are exactly like those who marry and become parents—indeed in at least one important respect they differ—we wanted to see if the effects of parenthood depend on the timing of these events. To this end, we divided the parents into those who married relatively early and those who married relatively late and performed all analyses separately for the males and females in these two groups. The patterns of parenthood effects were virtually identical for the two groups.
4. These graphs each contain four lines, actual and expected outcomes for males and females. Although confidence bands around each of these would be useful, the large amount of information would make the resulting graphs illegible. Instead, we have adjusted the vertical axes on the graphs to be roughly proportional to the standard error of the difference between the actual and expected lines. Two standard errors of the difference equal approximately one-fourth inch on these graphs, and differences of this size or larger can be assumed to be statistically significant.
5. In the Base Year Questionnaire, respondents were asked to select the occupational category "that goes with the best description of the kind of work you would like to do." Unlike the follow-up questions, which asked the respondent to report what he or she expected to be doing at a particular age, the base year question is indefinite. Also, the base year question presented somewhat fewer occupational categories.
6. The scores assigned to the occupational categories are as follows: Professional I (e.g., clergyman, dentist, lawyer, physician, scientist, college teacher), 80; Professional II, 64; School Teacher, 63; Manager, 49; Military, 48; Proprietor, 42; Technical, 40; Sales, 38; Homemaker, 36; Clerical, 35; Farmer, 33; Protective, 31; Service, 25; Craftsman, 24; Operative, 15; Laborer, 10. Details of the derivation may be found in Haggstrom et al. (1981 Appendix E).
7. This figure presents only the actual and estimated expected proportions for women, because the four graphs for males and females, actual and expected, overlay each other to such

an extent that the plot became illegible. We saw no trends in the graphs for males, and so removed them from the figure.

8. Women were classified as being primarily homemakers at a given time if they (1) identified themselves as full-time homemakers and (2) reported that they were not full-time students, full-time workers, or in the military at that time. For details, see coding specifications for the homemaker track in Kanouse et al. (1980).

9. This analysis uses the Duncan SEI as a measure of socioeconomic status, as noted earlier. The Duncan SEI has the advantages of being remarkably stable across time, countries and raters; however, it produces comparable distributions of status for men and women, in spite of the sizable differences in wages and other career attainments, and eliminates a large proportion of the female population who work exclusively in the home. For a detailed critique of the Duncan SEI and alternative measures of occupational prestige, see Featherman and Stevens (1982).

10. On all follow-up surveys, the NLS participants were queried about their employment activities during the first week of October. If the person said that he or she was "Working for pay in a full-time or part-time job" and that was corroborated by other information in that and other interviews for that individual, then the individual was coded as employed.

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Table A.1. REGRESSION AND LOGISTIC REGRESSION RESULTS FOR MEASURES OF CAREER, PROFESSIONAL, AND HOMEMAKER EXPECTATIONS, AND WORK ORIENTATION

	Career Expectations				Professional Expectations			
	Females		Males		Females		Males	
Variable	b	t	b	t	b	t	b	t
Constant	12.81	3.9	-6.08	-1.4	-4.78		-5.15	
Marital Status								
Single (omitted)								
Married	-3.05	-6.2	-2.11	-2.9	-0.57	-6.5	-0.30	-2.9
Divorced, separated, or widowed	0.66	0.7	-1.46	-1.1	-0.03	-0.2	-0.08	-0.4
Years since first marriage	0.65	4.3	0.53	2.3	0.12	4.5	0.05	1.3
Postsecondary Education								
None (omitted)								
Less than two years	6.14	13.3	8.38	13.5	1.02	12.5	0.77	8.4
Two or more years, no BA	13.10	22.1	14.10	18.2	2.29	21.8	1.45	12.7
College graduate	17.09	22.9	21.54	21.3	3.06	23.2	2.22	14.9
High School Measures								
(Ability measure)/100	7.64	9.4	8.83	8.9	0.84	5.8	1.01	6.9
(Percentile rank in class)/100	-0.18	-0.2	8.52	8.0	-0.10	-0.6	1.06	6.8
Academic program	3.07	6.7	4.67	8.0	0.56	6.9	0.42	5.0
Vocational program	-2.06	-4.3	-2.56	-3.9	-0.43	-5.0	-0.48	-4.9
Race/Ethnicity								
Black	5.70	7.0	5.18	4.1	0.60	4.1	0.35	1.9
Hispanic	2.15	2.1	6.53	5.0	0.11	0.6	0.58	3.0
Other (omitted)								
Family Background								
Parents' education	0.13	1.2	0.87	6.5	0.02	1.3	0.15	7.3
Father's occupation (SEI/100)	0.70	0.8	7.10	6.1	-0.11	-0.6	0.47	2.7
Logarithm of family income	0.47	1.3	-0.10	-0.2	-0.00	-0.0	-0.21	-3.1
Region								
North Central (omitted)								
Northeast	0.10	0.0	-0.75	-1.2	-0.12	-1.4	-0.11	-1.2
South	0.29	0.6	0.18	0.3	-0.03	-0.4	-0.10	-1.1
West	1.72	3.2	-0.32	-0.5	0.19	1.9	-0.06	-0.6
Year								
1973	8.72	11.0	11.22	10.3	1.74	12.4	1.46	9.1
1974	6.28	8.7	8.76	8.8	1.23	9.7	1.13	7.7
1976	3.75	6.5	3.68	4.6	0.72	7.0	0.47	4.0
R^2	0.28		0.38					
S	13.29		16.53					
F	117.7		167.8		102.5		96.9	
N	6,401		5,671		6,401		5,691	

Table A.1 (continued)

Homemaker Expectations		Work Orientation			
Females		Females		Males	
b	t	b	t	b	t
-0.20		2.56	31.8	2.61	32.0
0.82	8.7	-0.02	-1.7	0.04	2.6
-0.21	-1.2	0.11	4.5	0.04	1.5
-0.07	-2.3	-0.10	-2.2	-0.01	-1.0
-1.20	-13.5	-0.12	9.9	0.04	3.0
-1.59	-13.9	0.15	9.6	0.07	4.8
-1.74	-12.1	0.21	10.7	0.10	4.8
-0.67	-4.2	-0.17	-8.4	-0.19	-10.7
-0.11	-0.7	-0.01	-0.4	-0.04	-1.8
-0.07	-0.8	0.00	0.3	0.00	0.2
0.07	0.7	0.04	3.1	0.03	2.1
-0.77	-4.8	0.08	3.9	0.02	1.0
-0.20	-1.0	0.09	3.5	0.05	2.0
-0.10	-0.5	-0.00	-1.6	-0.01	-5.1
0.27	1.6	-0.03	-1.5	0.01	0.5
0.12	1.7	0.01	1.5	0.04	5.1
0.05	0.5	-0.01	-1.1	0.02	1.8
-0.38	-4.4	0.04	3.9	0.03	3.2
-0.16	-1.5	-0.00	-0.3	-0.03	-2.7
0.03	0.2	0.17	7.2	0.13	5.5
0.18	1.3	0.01	0.3	0.00	0.1
0.14	1.2	-0.00	-0.1	-0.01	-0.6
		0.06		0.06	
		0.37		0.34	
35.2		23.3		21.4	
6,401		8,357		7,255	

Table A.2. REGRESSION AND LOGISTIC REGRESSION RESULTS FOR HOMEMAKER STATUS, SEI SCORE, HOURLY WAGE RATE, AND TOTAL WEEKLY RATES

	Homemaker Status			
	Some Activity		Main Activity	
Variable	b	t	b	t
Constant	-0.248		-2.064	
Marital Status				
Single (omitted)				
Married	4.305	51.6	2.267	20.3
Divorced, separated, or widowed	0.313	1.8	-0.043	-0.2
Years since first marriage	0.038	1.4	0.176	4.9
Postsecondary Education				
None (omitted)				
Less than two years	-0.478	-5.7	-0.802	-7.1
Two or more years, no BA	-1.150	-11.3	-1.036	-7.6
College graduate	-1.891	-15.3	-0.971	-5.9
High School Measures				
(Ability measure)/100	0.173	1.3	-0.252	-1.4
(Percentile rank in class)/100	0.101	0.7	-0.833	-4.3
Academic program	0.055	0.7	0.223	2.2
Vocational program	0.012	0.1	-0.364	-3.4
Race/Ethnicity				
Black	-0.884	-6.5	-0.100	-0.5
Hispanic	-0.685	-3.9	0.206	0.9
Other (omitted)				
Family Background				
Parents' education	0.014	0.8	0.024	1.0
Father's occupation (SEI/100)	-0.186	-1.2	0.119	0.6
Logarithm of family income	-0.209	13.5	-0.155	-2.0
Region				
North Central (omitted)				
Northeast	-0.324	-4.2	0.012	0.1
South	-0.110	-1.5	-0.062	-0.6
West	-0.216	-2.4	0.262	2.2
Year				
1972	-1.157	-7.1	-0.151	-0.7
1973	-0.724	-4.8	0.382	1.9
1974	-0.926	-6.6	0.943	5.1
1975	-0.683	-5.0	0.659	3.6
1976	-0.294	-2.4	0.941	5.8
1977	-0.589	-4.8	0.156	1.0
1978	-0.608	-5.2	0.156	1.0
R^2				
S				
F	276.7		51.5	
N	9,954		11,702	

Table A.2 (continued)

SEI Score				Hourly Wage Rate				Total Weekly Rates			
Females		Males		Females		Males		Females		Males	
b	t	b	t	b	t	b	t	b	t	b	t
16.752	4.7	30.678	7.0	2.653	5.4	3.088	4.6	185.770	9.8	185.490	6.5
1.998	3.8	0.000	0.0	0.072	1.0	0.469	4.6	9.607	3.5	24.906	5.8
2.209	2.1	-1.301	-0.8	0.223	1.5	-0.259	-1.1	25.456	4.5	-8.576	-0.8
-0.975	-5.8	-0.639	-2.6	-0.049	-2.1	0.008	0.2	-5.292	-5.9	-0.814	-0.5
0.875	1.7	0.835	1.3	-0.132	-1.3	-0.308	-3.1	-8.788	-3.2	-19.188	-4.7
-0.199	-0.3	3.310	4.4	-0.183	-2.0	-0.499	-4.3	-26.418	-7.7	-43.811	-8.9
8.890	11.6	18.549	19.3	0.400	3.8	-0.109	-0.7	15.470	3.8	-10.022	-1.6
4.547	5.2	5.138	5.4	-0.062	-0.5	-0.431	-2.9	-17.567	-3.7	-19.692	-3.2
9.013	9.7	3.734	3.6	0.619	4.8	-0.187	-1.2	24.013	4.9	-30.582	-4.5
0.014	0.0	4.762	8.5	0.094	1.4	0.057	0.7	-0.572	-0.2	-10.218	-2.9
6.036	11.9	1.304	2.1	0.244	3.5	0.044	0.5	16.064	5.9	9.151	2.3
-2.194	-2.3	-2.512	-2.1	0.265	2.0	0.111	0.6	1.578	0.3	-4.699	-0.6
5.451	4.7	3.530	2.6	-0.077	-0.5	-0.308	-1.5	-6.833	-1.1	-24.026	-2.8
0.079	0.7	0.185	1.4	-0.016	-1.0	-0.047	-2.3	-1.468	-2.4	-4.643	-5.4
1.300	1.3	7.137	6.3	0.322	2.4	-0.174	-1.0	11.664	2.2	-2.651	-0.4
1.695	4.5	-0.721	-1.6	0.274	5.2	0.566	8.0	8.209	4.1	26.269	8.7
1.046	2.1	1.129	1.8	0.080	1.2	-0.175	-1.8	-3.649	-1.4	-7.497	-1.8
4.004	8.5	3.070	5.5	-0.051	-0.8	-0.211	-2.5	2.350	0.9	-6.381	-1.8
0.420	0.7	0.377	0.6	0.308	3.8	0.445	4.4	6.017	1.9	13.391	3.1
-12.371	-11.7	-16.148	-12.8	-1.910	-13.0	-2.308	-11.9	-124.360	-22.1	-157.860	-19.3
-12.894	-13.5	-17.950	-15.5	-1.689	-12.8	-1.660	-9.3	-103.330	-20.3	-124.540	-16.5
-10.024	-11.3	-16.816	-15.5	-1.356	-11.0	-1.389	-8.3	-82.514	-17.5	-105.850	-15.0
-6.289	-7.3	-10.851	-10.3	-1.098	-9.2	-1.262	-7.8	-71.463	-15.6	-90.264	-13.2
-5.978	-8.0	-10.739	-11.6	-0.809	-7.8	-0.779	-5.5	-47.394	-11.9	-54.548	-9.1
-4.109	-5.4	-7.100	-7.5	-0.486	-4.6	-0.661	-4.5	-28.825	-7.1	-39.830	-6.4
-2.365	-3.2	-4.890	-5.5	-0.252	-2.5	-0.471	-3.4	-14.095	-3.6	-28.068	-4.8
0.19		0.32		0.10		0.09		0.20		0.20	
16.32		18.29		2.27		2.85		85.58		116.70	
78.1		136.6		38.4		29.1		79.8		71.3	
8,436		7,298		8,534		7,480		8,170		7,028	

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